IT Unit 3

Topic 2

***Data Sources, p 91-107***

1. *Why is it important to know the source of data and its “chain of custody”?*It is important to know its chain of custody as it can prove data’s authenticity, because the data could be a work of fiction, statistically manipulated, edited and/or abridged.
2. *List some easily accessible data sites.*Wikipedia.com  
   IMDb.com  
   Wikia.com  
   Trove.nla.gov.au  
   ancestry.com
3. *What are the advantages of using different data acquisition techniques?  
   It is advantageous to use different data acquisition techniques because sites provide different opinions, or give availability to cross-referencing data.*

***Acquiring Data, p 94***

1. *Distinguish between open & closed questions. List some strengths and weaknesses of both.*Closed questions are usually found in exams, forms and surveys, forcing you to answer in a particular way because they allow only predetermined responses, such as yes/no. They’re good for collecting qualitative data – numbers and facts.  
   Open questions are often used in interviews, and don’t limit the answer; there is no predetermined set of options, nor a limit on length, type or content. Open questions are better for collecting data that relates to opinions and subjective experiences – qualitative data. **Open:  
   Strengths:** No limit on length, type, or content, collects qualitative data, and asks for opinions and subjective experiences. **Weaknesses:** Cannot sort data into graphs as it can’t be formed into numbers or categories. **Closed:  
   Strengths:** yes/no, checkboxes, and multiple choice can all be used to graph and sort data as it relies on numbers and categories. **Weaknesses:** Not very detailed as data can only have a specific number of questions and answers of a certain type.

***Faults in questions, p 96***

1. *List some types of questions that are not effective.*“Did you go to the pool at 2:30 in your school uniform?”  
   “Were you wearing a jumper that day?”  
   “Did you steal a doughnut at 12 PM on Saturday?”

***Conducting interviews, p 97***

1. *List some strengths and weaknesses with interviews as a technique for acquiring data.***Strengths:** Interviewer can pick up on interviewee’s tone of voice, body language, facial expression, pauses, hesitancy, energy, lethargy and all other non-verbal elements that can be observed. They’re more likely to elicit accurate information on sensitive subjects. **Weaknesses:** Can be time consuming and cost a lot more money if face-to-face, and some interviewees sometimes try to say the ‘right’ thing, to give the correct answer or avoid embarrassment.

***Observing subjects, p 98***

1. *What are the strengths and weaknesses of observation?***Strengths:** Discloses the truth based on generally ‘right’ answers, such as hospitals asking if patients and visitors have washed their hands (generally, 100% say yes), which can be debunked if observed. It allows for non-verbal communication methods as in interviews. As subjects may not be entirely capable of reporting upon themselves with clarity, and tend to be biased as they are reporting on themselves, you may be able to see where they are wrong and where they are lying. Covert (unseen) observation is more accurate. **Weaknesses:** Covert observation may be unethical or illegal. Observation is incredibly time-consuming, and can take a great deal of money and labour. It only indicates what subjects do, and not why they do it. Subjects also tend to perform better if they know that they are being observed, which can affect realistic results. Interpretation of questions may be different for different people, or some may be biased towards the observation question.

***Surveys and questionnaires, p 99***

1. *What are the advantages and disadvantages of these techniques?***Advantages:** If observation is overt, trust, consent and confidence from subjects can be gained by explaining the purpose of the observation – the same works if the subject is reassured that they will not be punished or judged. If records are taken, they can always be read over – memory may fail. Recording with evaluation rather than interpretation (quotes, events etc) provide the most accurate results. Recording field notes during the observation (which are open ended recordings of things that were observed which weren’t anticipated when research began), as they add detail.  
   **Disadvantages:** Field-notes do not answer pre-planned questions. Observing may distort the natural behaviour of subjects, as interference may throw them off. Observer must remain professionally detached, as emotional attachment may distort an observer’s objective judgement.

***Selecting representative samples, p 104***

1. *What types of selection bias exist?*Wealth-based bias exists – for example; the American Literacy Digest in 1936 created a survey depending on which president would win the election. They found that Alfred Landon would win indefinitely, but Roosevelt won by a long shot. This was because of the economic bias, as only middle and upper class citizens voted, which tended to be more Republican. Another bias is timing – some subjects may not have the time to answer the question, and will either throw an answer for the sake of answering, or refuse to answer entirely. Another type is self-selection bias – A pollster in a supermarket found that an unusually high number of shoppers did charity work. This was perhaps because the sort of person who does charity work is also the sort of kind, empathetic person who would stop to help a pollster in a supermarket. Just choosing to participate in a survey self-selects a certain type of respondent which can lead to biased results

***Querying resources, p 105***

1. *What is the role of built-in services in databases?*Built-in services in databases are used to assist in collecting data that is relevant to a hypothesis.
2. *Give examples of 2 types of queries.*Query By Example (QBE) uses a database’s graphical user interface (GUI) to let the user type the data they wish to find in a field to be searched. On the other hand, Structured Query Language (SQL) is the standard method of requesting data from databases, and is also in the textual equivalent of QBE.
3. *What is an application programming interface, (API)?*An application of API is to let programmers create a gateway so other programs can interact with their software.
4. *Why should the sources of data you use be acknowledged?*

The sources of data you use should be acknowledged so that it is clear that you are not claiming another author’s work as your own, and copyright ‘fair use’ legalities are observed.